

ABSTRACT OF DISCLOSURE

A polymer solid electrolyte type fuel cell is provided capable of preventing chemical deterioration of fuel cell constituent materials such as an ion exchange membrane and the like.

An internal electrode 2 is provided in an electrolyte 4 made of a proton conductor, a voltage application means 5 is provided between the internal electrode 2 and one of a fuel electrode 3 and an oxidizer electrode 1. Applying voltage to the internal electrode 2 makes it possible to control fuel and/or oxidizer movements in the electrolyte 4, thereby suppressing or restricting the possible deterioration of the electrolyte 4.